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Exercise - I (Conceptual Questions) Build Up Your Understanding

1. Cell division is itself a mode of reproduction in: -
(1) Protista & all fungi
(2) Protista only
(3) Monera fungi & higher plants
(4) Protista & Monera

2. Most common special asexual reproductive structure seen in member of algae is: -
(1) Zoospore (2) Conidia
(3) Sporangia spore (4) Gemmule

3. Short horizontal branch which is one internode long and produces a cluster of leaves above and cluster of roots below is called: -
(1) Stolon (2) Offset
(3) Rhizome (4) Bulbil

4. Find out the incorrect statement: -
(1) Period from birth to natural death is called life span
(2) Life span of an organism are necessarily correlated with their size
(3) Except single celled organism all other are mortal
(4) Reproduction enable the species generation after generation

5. Regarding the reproduction which of the following statement is correct: -
(1) Asexual reproduction is common among multicellular plants & animals
(2) In monerans cell division itself a mode of reproduction
(3) Yeast undergo equal type cell division to produce bud
(4) In fungi fission is most common method of asexual reproduction

6. Water hyacinth or *Eichhornia* is one of the problematic weeds of static water in India. Which of the following statement is incorrect about it ?
(1) It also known as 'Terror of Bengal'
(2) It is native plant of India
(3) It increases biological oxygen demand of water body
(4) It spread rapidly through vegetative reproduction.

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7. Select the odd one out with respect to life span:-
(1) Life span of organism are not correlated with their size
(2) Crows and parrots show wide difference in their life span
(3) Life span of rice is 3-4 weeks
(4) It is the period between birth and natural death of an organism.

8. Write down the name of fleshy bud that produces new plant in Agave:-
(1) Bulbil (2) Bulb
(3) Rhizome (4) Offset

9. Match the following:-

Column I Plant		Column II Vegitative reproduction by	
(a)	Ginger	(i)	Stolon
(b)	*Crocus*	(ii)	Rhizome
(c)	*Jasmine*	(iii)	Aerial shoot
(d)	*Opuntia*	(iv)	Corm

(1) a-(i), b-(iv), c-(iii), d-(ii)
(2) a-(ii), b-(iv), c-(i), d-(iii)
(3) a-(iv), b-(ii), c-(iii), d-(i)
(4) a-(ii), b-(i), c-(iv), d-(iii)

10. The fleshy bud which produces new plants in hydrophytes is known as:-
(1) Bulbil
(2) Sucker
(3) Turion
(4) Runner

11. Select the incorrect match: -
(1) Asexual reproduction - Somatogenic reproduction
(2) Sexual reproduction - Fusion of gametes
(3) Vegetative propagation - Rhizome
(4) Clone - Morphologically similar, genetically dissimilar

12. The continuity of life is maintained by the process of :-
(1) Respiration (2) Reproduction
(3) Photosynthesis (4) Adaptation

13. The offspring produced through which of the following process are not exactly similar to their parents?
(1) Asexual reproduction
(2) Sexual reproduction
(3) Parthenogenesis
(4) A meiotic thelytoky

14. Reproduction is essential for:-
(1) Producing young ones
(2) Adaptations
(3) Variations
(4) Continuity of a species

15. Oestrus cycle is found in **:-**
(1) Gibbon (2) Gorilla
(3) Cow (4) Monkey

16. Meiocytes are **:-**
(1) Spermatids
(2) Gamete mother cells
(3) Bone marrow cells
(4) Oocytes

17. Which of the following animal is bisexual?
(1) Cockroach (2) Leech
(3) Monkey (4) Honey bee

18. External fertilisation occurs in **:-**
(1) Mammals (2) Birds
(3) Reptiles (4) Bony fishes

19. Which of the following organism has longest life span?
(1) Elephant (2) Horse
(3) Crocodile (4) Parrot

20. Which of the following animals are seasonal breeder?
(1) Monkey (2) Human
(3) Bird (4) Apes

21. The process refers to development of embryo is known as **:-**
(1) Gametogenesis
(2) Embryogenesis
(3) Parthenogenesis
(4) Oogenesis

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22. Which one has the more chromosome number in meiocyte as compared to others?
(1) Cat (2) Dog
(3) Rat (4) Fruit fly

23. Which of the following event is post fertilisation event?
(1) Gametogenesis
(2) Gamete transfer
(3) Fertilisation
(4) Embryogenesis

24. Match the column-A with column-B **:-**

Column A		**Column B**	
(i)	Budding	(a)	*Cockroach*
(ii)	Binary fission	(b)	*Hydra*
(iii)	Gemmule	(c)	*Amoeba*
(iv)	Gamete formation	(d)	Sponge

(1) (i)-b, (ii)-c, (iii)-a, (iv)-d
(2) (i)-b, (ii)-c, (iii)-d, (iv)-a
(3) (i)-d, (ii)-a, (iii)-c, (iv)-b
(4) (i)-d, (ii)-b, (iii)-c, (iv)-a

25. Which of the following statement incorrect?
(1) Asexual reproduction is a rapid mode of reproduction.
(2) Embryogenesis involves cell division and cell differentiation.
(3) The life spans of organisms correlated with their sizes.
(4) Animals are either unisexual or bisexual.

26. Arrange these animals in the increasing order of their life span : -
Crow, Horse, Parrot, Elephant
(1) Horse, Parrot, Crow, Elephant
(2) Crow, Parrot, Horse, Elephant
(3) Crow, Parrot, Elephant, Horse
(4) Crow, Horse, Elephant, Parrot

27. In which type of reproduction two individual cells of the opposite sex are essential?
(1) Asexual (2) Sexual
(3) Vegetative (4) Fragmentation

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28. Read the following four statements (A-D):-

(A) In asexual reproduction, offspring produced with or without involvement of gametes

(B) In asexual reproduction, clones are formed

(C) Asexual reproduction is very common in single celled organisms

(D) Budding in Hydra is a mode of sexual reproduction

How many of the above statements are correct?

(1) 4 (2) 3

(3) 2 (4) 1

29. Identify the incorrect statement :-

(1) Sexual reproduction involve formation of the male & female gametes, either by the same individual or by different individual of the opposite sex.

(2) Sexual reproduction results in the offspring that are identical to the parents or amongst themselves.

(3) All organisms have to reach certain stage of growth & maturity in their life, before they can reproduce sexually.

(4) Juvenile phase is of variable durations in different organisms.

30. In which plants it is very difficult to clearly define vegetative, reproductive & senescent phases?

(1) Annual

(2) Biennial

(3) Perennial

(4) Both annual and biennial

EXERCISE-I (Conceptual Questions) ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	4	1	2	2	2	2	3	1	2	3	4	2	2	4	3
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	2	2	4	4	3	2	2	4	2	3	4	2	2	2	3

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Exercise - II (Previous Year Questions) AIPMT/NEET

AIPMT 2009

1. Vegetative propagation in mint occurs by:-
(1) Offset (2) Rhizome
(3) Sucker (4) Runner

AIPMT Mains 2010

2. Vegetative propagation in *Pistia* occurs by:-
(1) Stolon (2) Offset
(3) Runner (4) Sucker

AIPMT 2011

3. What is common between vegetative reproduction and apomixis?
(1) Both are applicable to only dicot plants
(2) Both bypass the flowering phase
(3) Both occur round the year
(4) Both produce progeny identical to the parent

AIPMT 2012

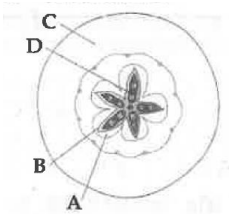
4. Which one of the following is common to multicellular fungi, filamentous algae and protonema of mosses?
(1) Diplontic life cycle
(2) Members of kingdom plantae
(3) Mode of Nutrition
(4) Multiplication by fragmentation

AIPMT 2013

5. Product of sexual reproduction generally generates
(1) Prolonged dorman
(2) New genetic combination leading to variation
(3) Large biomass
(4) Longer viability of seeds

NEET 2022

6. Which part of the fruit, labelled in the given figure makes it a false fruit?



(1) B → Endocarp (2) C → Thalamus
(3) D → Seed (4) A → Mesocarp

7. Match list-I with list-II:

List-I	**List-II**
(a) *Chlamydomonas*	(i) Conidia
(b) *Penicillium*	(ii) Zoospores
(c) *Hydra*	(iii) Gemmules
(d) Sponge	(iv) Buds

Choose the correct answer from the options given below:
(1) (a) – (i), (b) – (iv), (c) – (iii), (d) – (ii)
(2) (a) – (ii), (b) – (i), (c) – (iv), (d) – (iii)
(3) (a) – (iii), (b) – (ii), (c) – (i), (d) – (iv)
(4) (a) – (iv), (b) – (iii), (c) – (ii), (d) – (i)

EXERCISE-II (Previous Year Questions) ANSWER KEY

Question	1	2	3	4	5	6	7
Answer	3	2	4	4	2	2	2

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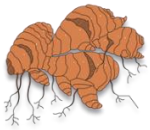
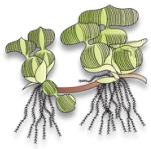
Exercise - III Master Your Understanding

EXERCISE-III(A) NCERT BASED QUESTIONS

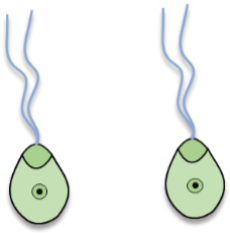
1. Four different modes of vegetative reproduction are in figure given below. Identify the correct match: -

(A) (B) 

(C) (D) 

(1) A-Rhizome; B-Tuber; C-Leaf; D-Offset
(2) A-Tuber; B-Rhizome; C-Leaf; D-Offset
(3) A-Rhizome; B-Corm; C-Leaf; D-Offset
(4) A-Tuber; B-Rhizome; C-Offset; D-Leaf

2. The diagram shows: -



(1) Homogametes of Cladophora
(2) Homogametes of Fucus
(3) Heterogametes of Cladophora
(4) Heterogametes of fungus

3. Read the following statements about asexual reproduction and select the correct ones:-

(i) It involves a single parent
(ii) It is slower than sexual reproduction
(iii) It produces progeny that are genetically identical with the parent but not with one another
(iv) The progeny of asexual reproduction can be termed as clones

(1) (i) and (ii)
(2) (ii) and (iii)
(3) (i) and (iv)
(4) (i), (ii) and (iv)

4. Select the incorrect statement about reproduction?

(1) Reproduction is a fundamental feature of living organism
(2) It is a biological process
(3) Offspring produced by organism are identical in both asexual and sexual reproduction
(4) Reproduction ensure the continuity of species.

5. Stobilanthus kunthiana found on large packs of hilly area in kerala, Karnataka & Tamilnadu. Flower once in :-

(1) 10 years (2) 15 years
(3) 12 years (4) 18 years

6. Which phase can be considered as one of the parameter of senescence or old age?

(1) Juvenile phase
(2) End of Juvenile phase
(3) Reproductive phase
(4) End of reproductive phase

7. All organisms have to reach certain stage of growth and maturity in their life before reproduce sexually that period of growth is known as :-

(1) Juvenile phase (2) Vegetative phase
(3) Reproductive phase (4) Both (1) and (2)

8. Slowing of metabolism occurs in which phase of life?

(1) Juvenile phase
(2) Reproductive phase
(3) Senescent phase
(4) None of the above

9. How birds in captivity (Poultry farms) can be made to lay eggs throughout the years?

(1) By giving hormonal treatment
(2) drug treatment
(3) By genetic engineering
(4) By regulation environmental factors.

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10. In which of them oestrus cycle is absent?
(1) Dogs (2) Tiger
(3) Cows (4) Monkey

11. Select the incorrect statement: -
(1) The reproduction phase is of variable duration in different organism
(2) In Non-primates' cyclic changes during reproduction are called oestrus Cycle
(3) In primate cycle change during reproduction are called menstrual cycle.
(4) Many mammals are reproductively active throughout their reproductive phase & hence are called seasonal breeders

12. What is the correct sequence of different phases of life?
(1) Juvenile phase → Reproductive phase → Senescent Phase
(2) Juvenile phase → Senescent Phase → Reproductive phase
(3) Juvenile phase → vegetative phase → Senescent Phase
(4) Senescent Phase → Reproductive phase → Vegetative phase

13. Which type of reproduction does involves the fusion of gametes from two different individuals?
(1) Parthenogenesis
(2) Vegetative reproduction
(3) Fragmentation
(4) Sexual reproduction

14. In which one pair, both the plants can be vegetatively propagated by leaves?
(1) Bryophyllum and Kalanchoe
(2) Chrysanthemum and Agave
(3) Agave and Dioscorea
(4) Bryophyllum and Asparagus

15. What is the site of origin of the new plantlet in ginger?
(1) Eyes (2) Buds
(3) Nodes (4) Axillary Bud

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16. Asexual method of reproduction by binary fission is common to which of the following?
(i) Some eukaryotes
(ii) All eukaryotes
(iii) Some Prokaryotes (iv) All Prokaryotes
(1) (i) and (ii)
(2) (ii) and (iii)
(3) (i) and (iii)
(4) (iii) and (iv)

17. Identify the mismatch pair?
(1) Potato - Eyes
(2) Rhizome - Ginger
(3) Bulbil - *Bryophyllum*
(4) Offset - Water hyacinth

18. The most vital event of sexual reproduction is: -
(1) Gamete formation
(2) Gamete transfer
(3) Fusion of gamete
(4) Development of Zygote.

19. Select the most appropriate statement explaining external fertilization: -
(1) Fusion of male and female gametes
(2) Fusion of male and female gametes in water
(3) Fusion of gametes outside the body of organism
(4) Fusion of gametes inside the organisms

20. In seed plants the non-motile male gametes are carried to non-motile female gamete: -
(1) Through air (2) Through water
(3) By insect (4) By pollen tube

21. What is parthenogenesis?
(1) Female gamete undergoes development to from new organism without fertilization
(2) Zygote undergoes development to form new organism after fertilisation.
(3) Female gamete undergoes development to form new organism after fertilisation.
(4) Formation of embryo from any somatic cell of an organisms.

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22. Binary fission is a method of asexual reproduction in which of the following?
(1) *Amoeba* (2) *Hydra*
(3) *Paramoecium* (4) Both (1) and (3)

23. Select the incorrect statement: -
(1) Events after the formation of zygote are called post fertilisation events.
(2) Formation of haploid zygote is universal in all sexually reproducing organisms.
(3) In organisms belonging to fungi and algae zygote develops a thick wall.
(4) In fungi and algae zygote undergos a period of rest before germination.

24. In flowering plants, after fertilization which plant part remain attached to the plant?
(1) Sepals (2) Petals
(3) Stamens (4) Pistil

25. Select the correct statement regarding flowering plants: -
(1) Zygote forms inside the ovule
(2) Zygote develops into the seed
(3) Ovary develops into seed
(4) Ovules develop into fruit

26. Select the incorrect statement: -
(1) Gametogenesis refers to the process of formation of two zygotes.
(2) Gametes have only single set of chromosomes.
(3) Gametes similar in appearance and not possible to differential them into male & female are called homogamete.
(4) Morphologically distinct gametes are called heterogametes.

27. Select the correct statement: -
(1) A haploid parent produces gametes by meiotic division.
(2) Several organisms belonging to Monera, fungi, algae & bryophytes have diploid plant body.
(3) Organisms belonging to pteridophyte, gymnosperm, angiosperms and most of the animals are haploid.
(4) Chara is a monoecious plant.

28. How many chromosomes does a meiocyte of fruit fly have?
(1) 4 (2) 8
(3) 16 (4) 23

EXERCISE-III(B) (ANALYTICAL QUESTIONS)

29. Identify the correct set of statements :-
(a) Reproduction enables the continuity of species generation after generation.
(b) Sexual reproduction involves fusion of male and female gametes.
(c) The term clone is used to describe morphologically and genetically distinct individuals.
(d) Under favourable conditions amoeba shows encystation.
(e) Life span of crocodile and crow is 60 and 100 years, respectively.
Choose the correct answer from options given below :
(1) a, b and c
(2) a, d and e
(3) a and b
(4) a, b and e

30. Given below are two statements:-
Statement-I : Plants of cucurbits and coconuts are example of monoecious plants.
Statement-II : Earthworm, sponge, tapeworm and leech are example of hermaphrodite animals.
In the light of the above statements, choose the most appropriate answer from the options given below:
(1) Both Statement-I and II both are incorrect.
(2) Statement-I is correct but statement-II is incorrect.
(3) Statement-I is incorrect and Statement-II is correct.
(4) Both Statement-I and Statement-II are correct.

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31. Given below are two statements.

Statement-I : The process of formation of new organisms without fertilization of female gametes is called parthenogenesis.

Statement-II : The process of syngamy results in formation of gametes.

In the light of the above statements, choose the most appropriate answer from the options given below:-

(1) Both Statement-I and II both are incorrect.

(2) Statement-I is correct but statement-II is incorrect.

(3) Statement-I is incorrect and Statement-II is correct.

(4) Both Statement-I and Statement-II are correct.

32. Given below are two statements; one is labelled as **Assertion (A)** and the other is labelled as **Reason(R)** .

Assertion (A) : Male Honeybees are always haploid.

Reason (R) : Female and male gametes fuses to form zygote and then zygote will develop in male bee.

In the light of the above statements, choose the **most appropriate** answer from the options given below :-

(1) (1) If (A) & (R) both are correct and (R) is the correct explanation of (A).

(2) If (A) & (R) both are correct but (R) is not the correct explanation of (A).

(3) (A) is correct but (R) is incorrect.

(4) (A) & (R) both are incorrect.

Exercise - III ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	2	1	3	3	3	4	4	3	1	4	4	1	4	1	4
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	3	3	3	3	4	1	4	2	4	1	1	4	2	3	4
Question	31	32													
Answer	2	3													

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